

REMARKS

Claims 63-91 are pending in the present application. Claims 1-62 have been withdrawn from consideration as directed to a non-elected invention. Claims 63, 73-79, 90, and 91 stand rejected under 35 U.S.C. § 102(b) as anticipated by Novak et al., U.S. Patent No. 4,877,638. Claims 64-67 and 85-89 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Novak et al. Claims 68-72 and 80-84 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Novak et al. in view of Safian et al., U.S. Patent No. 4,250,726. Claims 74-75 stand further rejected under 35 U.S.C. § 112, second paragraph, as indefinite. By the present amendment, the Applicant has amended claim 63 and canceled claim 68. To the extent not addressed by the amendment, the rejections are respectfully traversed.

On March 26, 2003, an interview was held in the office of Examiner John C. Hong. Examiner Hong and the Applicant's representative, James M. Harrington, were present for the interview. During the interview, the Applicant's proposed amendment, which was substantively identical to the present amendment, was discussed. The interview centered upon the Applicant's proposed limitation to smooth-edged media in the pending claims, as well as upon the Applicant's assertion that neither Safian et al. nor Novak et al. teaches removal of the iron oxide layer and that both references teach away from the use of smooth-edged media. The Applicant wishes to thank Examiner Hong for conducting the interview and for the courtesy extended to the Applicant's representative.

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Claims 74-75 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for the stated reason that in claim 74, line 2, the language "spraying a fan-shaped jet of the media" is not clear. It is respectfully submitted that the specification, at page 3, second full paragraph, clearly identifies and defines the term "fan-shaped" with reference to the step of "spraying a

fan-shaped jet of the media,” and further that the fan-shaped configuration of the sprayed jet is depicted in Fig. 3 by arrows extending angularly from the nozzles 11. It is further submitted that the term “fan-shaped jet” has a meaning that is well understood by those having skill in the art to which the present invention relates, and that such a fan-shaped jet is illustrated, in a different context, in the cited reference Novak et al. Consequently, the rejection of claims 74-75 on the stated grounds is respectfully traversed.

Turning now to the merits, claims 63-91 stand rejected as anticipated by Novak et al., or as obvious over Novak et al., either alone or in combination with Safian et al. Novak et al., as understood, is for a method of grit blasting to abrade an article to remove a coating, in which the grit blast medium is infused with UV-detectable material. After abrasion, the surface is brushed to remove dust, and UV radiation is used to detect the presence of embedded grit blast media. It is respectfully submitted that Novak et al. is not analogous as a reference for the present application. Novak et al., at column 1, lines 21-25, identifies the method as being effective to remove surface coatings, such as epoxy primers, epoxy topcoats, polyurethanes, and sealants. It is respectfully submitted that these surface coatings are far easier to remove than is the scale layer sought to be removed by the method of the present invention. Scale generally comprises an oxidized layer at the surface of the metal being treated, not a coating. Moreover, Novak et al. specifically teach the use of blast media having “sharp angular edges” (col. 2, lines 28-29) and teach that the effectiveness of their process decreases when the media breaks down and becomes “less angular” (col. 2, line 62). It is therefore respectfully submitted that because Novak et al. teach the use of angular-edged media, Novak et al. fails to anticipate claims 63, 73-79, 90, and 91. Furthermore, because of the fundamental differences in the two processes and in the problems to which they are directed, and because Novak et al. specifically teaches away

from the use of smooth-edged media, it is respectfully submitted that it cannot serve as a reference against the present application, either alone or in combination with Safian et al.

Safian et al. is for a method of sheet rolling metal in which the two sides of the billet are worked using "solid hard spherical microbodies," including glass, aluminum oxide, zirconium oxide, chrome-nickel alloys, or ice, in order to polish the sheet metal to a mirror or dull finish. It is respectfully submitted that Safian et al. do not teach the use of smooth-edged particles, because, particularly at the sizes indicated (40 to 200 microns in diameter) none of the particles need be "smooth-edged," and almost all of the materials indicated cannot be smooth-edged—while they may be generally spherical, they have angular edges because of the crystalline structure of the particles. These, in turn, differ from the "metal shot" noted in Safien at column 1, lines 17-25, in that sharp-edged particle sizes of the size noted (2 mm to 5 mm) need not even be generally spherical, and for cutting purposes are preferably not spherical.

Safian et al. refers, at column 1, lines 12-38, to the same prior-art methods noted in the present application, but in the context of producing a polished finish upon them. It is respectfully submitted that the concept of producing a polished finish upon sheet metal is not the same as removing a scale layer. While the process of descaling does generally produce the equivalent of a polished surface, it is in fact much easier to produce a polished surface without removing the scale layer. It is this latter approach that Safian et al., as understood, choose to take. Specifically, Safian et al. state that the process "makes it possible to exclude the operations of etching, grinding and polishing from the process of working sheet billets of stainless steel" (col. 4, lines 40-42). Moreover, the Safian et al. reference refers at several locations to the elimination of "mechanical surface defects, such as scratches" (col. 3, lines 1-2), increasing the speed of the jet for "billets of stainless steel having serious surface defects" (col. 3, lines 55-56), but does not refer to "cracking" the layer of scale in any manner.

By contrast, the present invention is for a continuous method of descaling a layer of scale on an advancing metal surface without the use of caustic materials, wherein, inter alia, the scale is cracked by spraying smooth-edged media under fluid pressure at the metal surface, and the cracked layer of scale is removed by abrasion. It is respectfully submitted, based on the foregoing, that neither Novak et al. nor Safian et al., either alone or in combination, teaches the method of the present invention as claimed.

Consequently, it is respectfully submitted that claim 63 and its dependencies, claims 64-67 and 69-91, are allowable.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

CONCLUSION

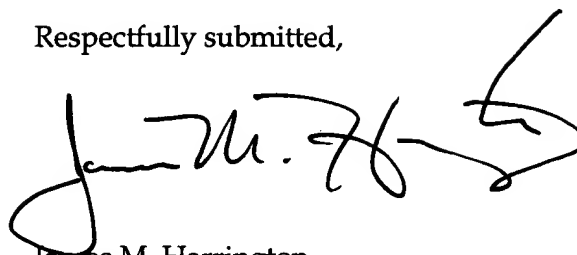
Based on all of the foregoing, it is respectfully submitted that the application is now in condition for allowance, and an early indication of same and passage to issuance are courteously solicited.

A petition for a one-month extension of the time for reply to the Office Action is enclosed herewith, together with a check in the amount of \$55.00 in payment of the fee therefor. The Commissioner is authorized to charge any underpayment, or credit any overpayment, to the Applicant's attorney's Deposit Account No. 18-1215.

A document titled "Revocation of Power of Attorney under 37 C.F.R. § 1.36 and Power of Attorney" is enclosed herewith and establishes the authority of the undersigned attorney to transact business in the U.S. Patent and Trademark Office with regard to the present application on the Applicant's behalf.

A Change of Correspondence Address is provided herewith.

Respectfully submitted,



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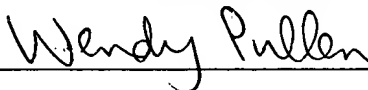
DATE OF DEPOSIT: April 14, 2003

- Amendment and Response
- Petition for Extension of Time under 37 CFR § 1.136(a) (in duplicate)
- Revocation of Power of Attorney under 37 CFR § 1.36 and Power of Attorney
- Change of Correspondence Address
- Check in the amount of \$55.00
- Postcard

I hereby certify that these papers and any fees therefor are being deposited on the date indicated above with the United States Postal Service as "Express Mail Post Office To Addressee," under 37 CFR § 1.10, addressed to: BOX RESPONSES, Commissioner for Patents, Washington, DC 20231.

TYPED NAME: WENDY PULLEN

SIGNATURE



VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 63 was amended as follows:

63. (Amended) A continuous method of descaling a layer of scale on an advancing metal surface without the use of caustic materials, said method comprising:

advancing a metal surface along a predetermined path of travel;

cracking the layer of scale by spraying smooth-edged media under fluid pressure at the surface of advancing metal; and

abrading the cracked layer of scale to remove the scale, thereby forming a descaled metal surface.

Claim 68 was canceled without prejudice to the subject matter thereof.